


Electric field fingerprint sensor apparatus and related methods

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Abstract

A fingerprint sensor includes an array of electric field sensing electrodes, a dielectric layer on the sensing electrodes with the dielectric layer for receiving a finger adjacent thereto, a driver for applying an electric field drive signal to the sensing electrodes and adjacent portions of the finger so that the sensing electrodes produce a fingerprint image output signal, the driver provides a coherent drive signal for the array. A respective shield electrode is associated with each of the electric field sensing electrodes for shielding each electric field sensing electrode from adjacent sensing electrodes. Each shield electrode is actively driven for further shielding. The fingerprint sensor includes a synchronous demodulator and contrast enhancer for more accurate output image signals. 

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